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AUTHOR	Callender, Claire
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ABSTRACT

A study was conducted in Britain between October 1990 and June 1991 to evaluate the implementation and delivery of National Vocational Qualifications (NVQs) and the implications for the training of trainers. (NVQs are a device for assessing performance; they represent the systemization of the skills and competencies required in a wide variety of occupations and at different levels.) The study focused on the construction industry but its findings are applicable to many other industries. Data were collected through 20 in-depth interviews with key organizations concerned with the introduction of NVQs generally and in the construction industry in particular, and 7 case studies were made of a cross-section of construction companies and their off-site training providers. The research identified two sets of issues that together are inhibiting and negating the use of NVQs: (1) structures that are necessary preconditions for the implementation of NVQs are inadequate, particularly in access to information about NVQs and in funding and resources for training providers, employers, and trainees; and (2) industrial organizations are causing NVQs that are not occupationally based to proliferate and inhibit the transfer of skills between and within industries, and many NVQs are too limited and narrowly defined. The research showed the need for the training of trainers to maintain high training standards and the credibility of NVQs. The study concluded that the introduction of NVQs alone is unlikely to change either employers' incentive to train or the take-up of vocational training. Additional policies are required for the NVQs to meet the training needs of the future. (Contains 33 references.) (KC)

ED 391 077

Will NVQs Work?

Evidence from the Construction Industry

A report to the Employment Department Group
by the Institute of Manpower Studies
on National Vocational Qualifications

IMS Report No 228

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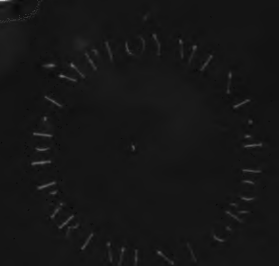

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Will National Vocational Qualifications Work?

Evidence from the Construction Industry

IMS Report No 228

by

Claire Callender

A Report to the Employment Department

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Institute of Manpower Studies, Mantell Building
University of Sussex, Falmer, Brighton, BN1 9RF
Tel: (0273) 686751

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Claire Callender

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Executive Summary

The research aimed to evaluate the implementation and delivery of NVQs and the implications for the training of trainers. It focused on the construction industry but its findings are applicable to many other industries.

Methodology
The research was conducted between October 1990-June 1991. Twenty in-depth interviews were carried out with key organisations concerned with the introduction of NVQs generally and in the construction industry in particular. Seven case studies of a cross-section of construction employing organisations and their off-site training providers were also undertaken.

National Vocational Qualifications
The introduction of National Vocational Qualifications (NVQs) marks a radical shift in Britain's vocational training provision. NVQs, which aim to improve the take-up and quality of training and rationalise training qualifications, herald both a new centralised training strategy and uniform national standards.

NVQs are a device for assessing performance. They represent the systemisation of the skills and competences required in a wide variety of occupations and at different levels. Set performance criteria define the standard required and these standards or competences are the basis for assessment. Individuals must demonstrate competent performance in what they do in order to achieve an NVQ. Thus NVQs are concerned with outputs and assessment, and not the training process, its delivery or inputs such as contents, design and delivery. And it is this emphasis that makes NVQs so different from vocational qualifications of the past.

Implementing NVQs
Research identified two sets of issues, which together are currently inhibiting and negating both the progress and aims of NVQs. They are:

1. Structures which are necessary preconditions for the successful implementation of NVQs. Their inadequacies are affecting both the supply of, and demand for, NVQs, and hence access and take-up. In particular:

    - access to information about NVQs;

    - funding and resources for training providers, employers and trainees.

2. More significantly, substantive issues, which bring into question the ideas underpinning NVQs and whether NVQs can work in practice. In particular:

    - Lead Industrial Bodies whose present structure is leading to a proliferation of NVQs which are not occupationally based and so do not enhance the transfer of skills between and within industries and occupations;

    - NVQs' employer-led competences which are limited and too narrowly defined at the expense of pedagogic concerns, vocational education

and the long term interests of industry, the economy and individual trainers;

- NVQs which are not always comparable across all industries and occupations and thus fail to represent common national standards;

- assessment procedures which, contrary to expectations, are unlikely to take place in the workplace because of issues of feasibility, cost and reliability, and assessment techniques whose reliability, validity and efficiency are yet to be tested.

The Training Needs of Trainers

The research showed the need for the training of trainers to maintain high training standards and the credibility of NVQs. Both general and focused training will be required which concentrates on the delivery of NVQs and specifically their assessment. No such training had yet been undertaken.

Conclusions

The research concludes that the introduction of NVQs alone is unlikely to change either employers' incentive to train or the take-up of vocational training. Additional specific policies are required for such changes, but these and other changes recommended in the report are vital to ensure that NVQs meet the training needs of the 1990s and beyond.

Chapter 1: Introduction

1.1 Background

In 1986 the Government laid the ground for the introduction of National Vocational Qualifications (NVQs) aimed at radically reforming vocational education and training qualifications. It set up the National Council for Vocational Qualifications (NCVQ) to establish a national framework for vocational qualifications and to relate the qualifications to the standards required for competent performance in employment. Together with the Employment Department, and its Training Enterprise and Education Directorate (TEED), the NCVQ began the development and implementation process. Originally, it was hoped that most NVQs would be in place by the end of 1991 but the progress has been slow.

It was against this background that TEED commissioned the Institute of Manpower Studies to undertake a study on the implementation and delivery of NVQs and their implications for the training of trainers, using the construction industry as a case study.

1.2 Aims and Objectives of the Study

The main aim of the study was to examine the implementation and delivery of NVQs and assess their implications for:

- training policy in general, and
- the training of trainers.

The objectives of the study were:

- to identify the processes necessary for the construction industry to deliver the objectives of NVQs, and
- to highlight the key factors which facilitate and constrain the implementation and delivery of NVQs in the construction industry.

1.3 Methodology

Twenty in-depth interviews were carried out with key organisations concerned with the introduction of NVQs generally and in the construction industry in particular, between October 1990 and March 1991. Seven case studies were also conducted of employing organisations in construction and their off-site training providers between March and June 1991.

The employing organisations were drawn from the private and public sector and were selected on the basis of size, type of work, and location. All were involved in training traditional craft construction skills with the exception of one which trained in highway maintenance[1]. Each case study involved in-depth

1 The NVQs under examination devised for construction craft skills and highway maintenance are different. No distinction has been made, however, in the subsequent analysis between these NVQs except where there are marked contrasts.

interviews with and observation of:

a) the employing organisation - including senior and middle management, training managers, site supervisors and individual trainees;

b) the off-site training providers used by the employing organisation - including training managers, trainers, college tutors and individual trainees.

1.4 Research Issues

When the research was originally devised it was envisaged that NVQs would be up and running. However, this proved not to be the case. This resulted in two changes to the research. First, the focus of the research shifted more towards the second research objective and, in particular, an examination of the structures necessary for the delivery of NVQs along with an assessment of whether the theories underpinning NVQs work in practice. Secondly, it was decided to delay some of the planned case studies until more NVQs were in place. Thus the study is being written up in two stages.

1.5 Layout of the Report

The remainder of the report represents the findings of the first stage of the study and is divided into five chapters. Chapter 2 gives a general outline of NVQs, including their aims and objectives, key characteristics, and the progress of NVQs in the construction industry. Chapter 3 describes the construction industry, its structure, workforce, recent changes and training in the industry. It forms an important backdrop for understanding issues affecting the introduction of NVQs. The factors which have constrained and facilitated the implementation and delivery of NVQs are the focus of Chapters 4 and 5, Chapter 4 exploring the structures necessary for the delivery of NVQs while Chapter 5 examines substantive issues which bring into question the ideas underpinning NVQs. Together, these Chapters form the core of the study. Chapter 6 concentrates on the implications of NVQs for the training of trainers, while the concluding chapter summarises the main findings of the study.

Chapter 2: National Vocational Qualifications

2.1 Background

In 1981 the Manpower Services Commission published *A New Training Initiative: An Agenda for Action* (MSC 1981). It highlighted the need for a more flexible and better trained workforce to meet the changing and increasingly competitive economic environment. In particular, it called for a comprehensive training strategy and standards of a new kind.

During the 1980s a range of national initiatives was introduced to improve and extend vocational education and training in Britain. However, despite these initiatives, concern continued to grow about the education, training and skills of the British workforce (Callender 1992).

It was against this background that the government set up a review of vocational qualifications in 1985. Its recommendations were set out in a government White Paper *Education and Training - Working Together,* 1986. In the same year the National Council for Vocational Qualifications (NCVQ) was set up. Its basic task was to establish a coherent national framework for vocational qualifications (NVQs) and to relate these qualifications to the standards required for competent performance in employment[1].

2.2 Aims and Objectives of NVQs

NVQs were introduced to help tackle a wide variety of problems concerning vocational training and qualifications in Britain (Jessup 1991). NVQs aimed:

- to increase the take-up of vocational training to ensure a better qualified workforce;
- to raise skill levels, for instance, by improving assessment and quality assurance;
- to broaden the scope of vocational qualifications and fill gaps in provision;
- to enhance the transferability and progression of skills both between and within occupational areas to cope with changing technology, work practices, and organisational structures;
- to ensure that vocational training meets the needs of employers and is relevant to the needs of employment by enabling industry to set the standards of qualifications;

---

1 Other tasks set out in the White Paper (Cmnd 9823) included:

- to approve bodies making accredited awards
- to obtain comprehensive coverage of all occupational sectors
- to secure arrangements for quality assurance
- to set up an effective liason with bodies awarding qualifications
- to establish a National Database for vocational Qualifications
- to undertake or arrange to undertake research and development to discharge these functions
- to promote vocational education and training

- to open up access to vocational training;
- to rationalise vocational qualifications by tackling the 'qualifications jungle' with its overlap and duplication and to provide a basis for comparison between awards;
- to provide clearer paths for progression from one qualification to another.

In essence, NVQs are an attempt to introduce a National Curriculum but for vocational training.

2.3 Key Characteristics of National Vocational Qualifications[2]

NVQs are qualifications and are a device for assessing *performance*. They represent the systemisation of the skills and competences required in a wide variety of occupations and at different levels. Set performance criteria define the standard required and these standards or competences are the basis for assessment. Individuals must demonstrate competent performance in what they do rather than in what they know, or understand, in order to achieve an NVQ. For instance, a bricklayer has to show and prove that he or she can actually build a wall rather than demonstrate some theoretical knowledge on how walls are built.

The competences and occupational standards required for an NVQ have been derived through functional analyses of work roles within occupations. They are occupationally specific skills and can be used immediately in the workplace. Consequently, they have been identified not by educationalists but by Lead Industry Bodies (LIBs) which are employer-led organisations.

2.4 Key Differences Between NVQs and Previous Vocational Training

The key differences between NVQs and previous vocational qualifications are as follows:

a) **NVQs have severed the link between the training process and gaining a qualification.**

- There are no set syllabi for NVQs.
- There are no set courses for NVQs.
- How a competence is learnt is not specified.
- When a competence is learnt is not specified.
- Where a competence is learnt is not specified.
- How long it takes to learn a competence is not specified.
- NVQs **are not** concerned with:
  - the training process;
  - how training is delivered;
  - training inputs, eg course design, contents, delivery.
- NVQs **are** concerned with:
  - outcomes;
  - performance;
  - competence.

NVQs neither stipulate how, where, and when competence is developed nor the modes of training delivery and contents. Candidates do not have to undergo any particular programme of learning. For instance, people with no formal training but with extensive work experience can gain NVQs through

2 For full details of NVQs see Employment Department /NCVQ 1991.

the accreditation of prior learning (APL), assuming they can meet the performance criteria. It does not matter whether they learnt their skill yesterday or ten years ago, or whether they learnt it through DIY, on the job, at a college course or through watching a TV programme. How the skill was learnt and how long ago are, therefore, irrelevant to the acquisition of NVQs.

Similarly how long it took to learn the competence is immaterial. The notion of time serving which was a key feature in the old apprenticeship system has become irrelevant.

This move away from concern about the training process and about what is taught, and how it is taught, challenges the existing role of trainers and educationalists. Moreover, this focus on outcomes is in marked contrast to developments in other European vocational training systems, such as in Denmark.

b) **NVQs have theoretically severed the link between training and assessment.**

- how a competence is assessed can vary;
- where assessment takes place can vary;
- who assesses competences can vary;
- when assessment takes place can vary.

Assessment for NVQs is based on statements of competence. It is the process of collecting evidence and making judgements on whether or not the performance criteria for each statement of competence have been met.

NVQ candidates have to provide the evidence of competence. The evidence, however, can be derived from a variety of sources and candidates' performance can be assessed any time at a variety of locations such as colleges, training centres or at their workplace.

Those judging the evidence and making the assessments can be the trainers or people in the workplace. Trainers and assessors may well be different people from each other. In the NVQ ideal world they will not be educationalists. Rather, they will be people in the workplace, they will be the trainees' supervisors, line managers and superiors. This has major implications for the form and location of vocational education and training in the future.

Once again this emphasis challenges the role of professional educationalists and trainers. Assessment no longer remains in the privileged domain of trainers. The status educationalists and trainers derive from controlling who and how people are awarded a qualification is potentially lost.

2.5 The NVQ Framework

Each NVQ is composed of a number of units of competence. A unit represents a discrete area of competence and is sub-divided into elements. An element is the most precise specification of competence within NVQs. It reflects those activities a person should be able to perform, specifying the nature of the activity, its objectives, and conditions.

Within each element, set performance criteria define the standard required while range statements specify the breadth of competence required and any variation of application. For instance, one unit in the carpentry NVQ Level 2 is concerned with fitting and fixing doors so the range statement requires trainees to be competent at fitting and fixing both internal and external doors.

While the performance criteria will, for instance, incorporate the permitted tolerance, each element is individually assessed and certification is available for unit credits.

There are five different NVQ Levels in the NVQ Framework. Each level represents a higher degree of competence and specialisation. The levels have been designed to allow for vertical incremental progression within an occupational area. The definitions of the levels provide a general guide and are not meant to be prescriptive (Figure 2.1). They were changed in April 1991, raising the competences that are now required in each level.

It is not easy to equate these NVQ levels with previous vocational qualifications. Very broadly, Level 2 is equivalent to the old craft certificate and Level 3 to an advanced craft certificate. By contrast, Level 5 is comparable with a degree and/or professional qualification.

2.6 Lead Industrial Bodies

NVQs are employment led rather than education led, unlike other qualifications. Lead Industrial Bodies (LIBs) were established to develop the standards of occupational competence and these were devised through a functional analysis of work roles with particular attention being paid to the purpose and outcome.

Figure 2.1: Definition of NVQ Levels

Level 1

Competence in the performance of a range of varied work activities, most of which may be routine and predictable.

Level 2

Competence in a significant range of varied work activities performed in a variety of contexts. Some of the activities are complex or non-routine. There is a considerable responsibility and autonomy, and control or guidance of others is often required.

Level 3

Competence in a broad range of varied work activities performed in a wide variety of contexts and most of which are complex and non-routine. There is considerable responsibility and autonomy, and control or guidance of others is often required.

Level 4

Competence in a broad range of complex technical or professional work activities performed in a wide variety of contexts and with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and the allocation of resources is often present.

Level 5

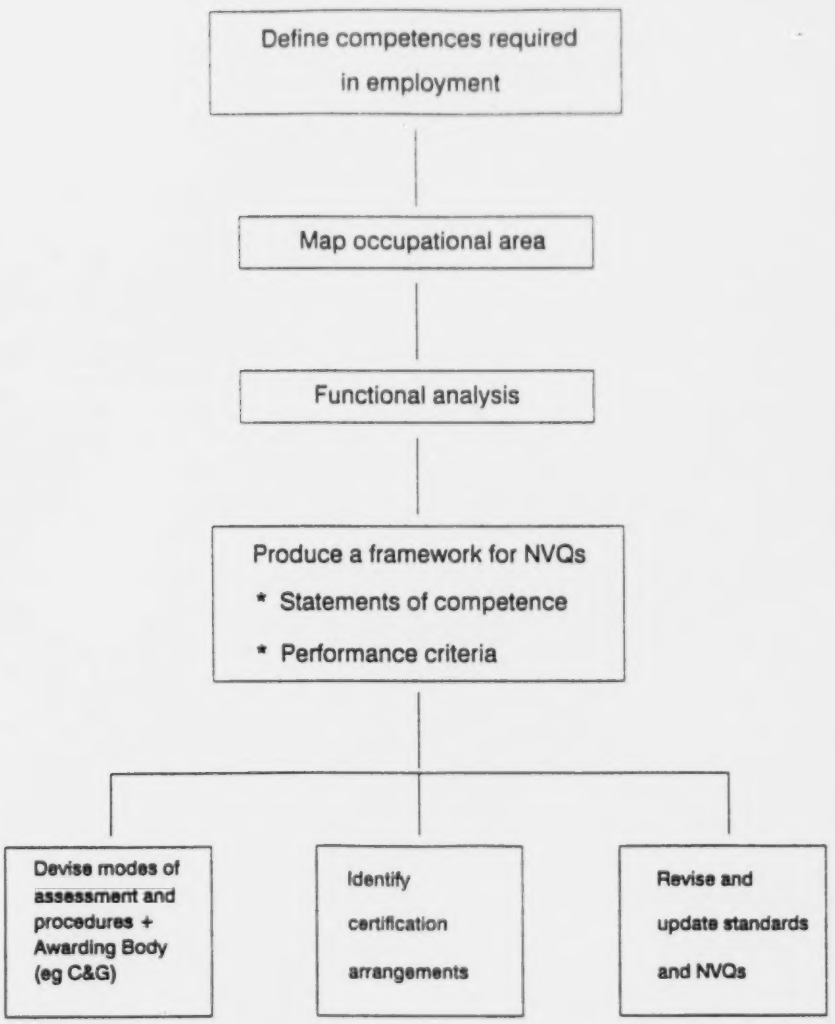
Competence which involves the application of a significant range of fundamental principles and complex techniques across a wide range and often unpredictable variety of contexts. Very substantial personal autonomy and often significant responsibility for the work of others and for the allocation of substantial resources features strongly, as do personal accountabilities for analysis and diagnosis, design, planning, execution and evaluation.

The purpose of LIBs was to develop standards and competences which were relevant to industry's needs and which reflected the reality of working life. They aimed to meet the continuous criticisms aimed at earlier vocational qualifications, namely, that they were irrelevant to industry's needs and were overly theoretical; that there was an imbalance between theory and practice; and a shortage of hands-on experience in the courses taught. The belief was that if industry determined the competences required, these types of problems could be overcome.

TEED devised the model for deriving worked based competences (Figure 2.2) which was to be followed by the LIBs. Interestingly, the impetus behind this model came from TEED rather than the then Department of Education and Science.

The first step was mapping the occupational area which, in reality, involved defining the boundaries of the industry and, to some extent, the occupational overlap with other industries.

Figure 2.2: Role of Lead Industrial Bodies


Define competences required in employment
Map occupational area
Functional analysis
Produce a framework for NVQs
* Statements of competence
* Performance criteria
Devise modes of assessment and procedures + Awarding Body (eg C&G)
Identify certification arrangements
Revise and update standards and NVQs

Step two was a functional analysis of work roles within the industry. Once these exercises had been completed, the statements of competence and performance criteria could be produced.

There are now over 140 LIBs and their number continues to grow. The majority of LIBs represent an industry or sub-sectors within an industry. Only a few have been set up explicitly to operate across occupations.

2.7 Awarding Bodies

Awarding bodies have been set and approved by the NCVQ to award specified NVQs - the NCVQ does not award NVQs itself. They in part consist of existing examining bodies such as City and Guilds of London Institute (C&G) and Business and Technology Education Council (BTEC), and can be a single body or consortium of relevant bodies acting together (including LIBs). They are primarily concerned with quality and their key functions are:

- to design qualifications based on statements of competence;
- to award qualifications based on valid assessments;
- to monitor and evaluate an assessment and verification system.

Awarding bodies, to safeguard standards, have to approve where assessment is undertaken and those carrying out the assessment. They have laid down criteria which both assessment centres and assessors have to meet.

2.8 NVQs in the Construction Industry

The Construction Industry Training Board (CITB) is composed of employers, employer federations, trade unions and a small number of educationalists. It is the lead industry body (LIB) for construction and, in particular, for those sectors which fall within its scope as an Industrial Training Board[3]. It does not, therefore, cover all the different sub-sections of the industry but liaises with their LIBs. The CITB has been responsible for standard setting, devising the statements of occupational competence up to Level 4, and ensuring industry support and involvement. It is also the joint awarding body with the City and Guilds and so has been responsible for issuing awards, assessment, record keeping, and quality assurance.

At the time this research study was undertaken the following five craft construction NVQs at Level 2 had been accredited by the NCVQ. They were accredited in November 1990 for 18 months[4].

- Carpentry and Joinery
- Bench Joinery
- Painting and Decorating
- Plastering
- Bricklaying

All the five were composed of self standing units of competence incorporating practical skills and underpinning job knowledge. Each consisted of five units of competence forming a common core and additional occupational units which made up the individual qualification. All other NVQs in this sector only had conditional accreditation. Criteria for APL had not yet been developed.

The Construction Industry Standing Committee (CISC), set up in 1990, is responsible for devising the NVQs for Level 3 and above and works closely

3 The CITB is one of the few remaining Industrial Training Boards which has statutory powers to raise a levy.
4 These Level 2 NVQs were revised in April 1992 when level 1 and 3 NVQs were also introduced.

with the CITB. It is concerned with technical, professional, and managerial occupations in the construction industry. It is primarily composed of employers, all the chartered professional institutions and non-chartered qualifying bodies and is currently developing appropriate NVQs.

One of the sub-sectors in the industry is concerned with highway maintenance. Its lead body is the Local Government Management Board while the awarding body is the City and Guilds. The NVQ Level 2 in Highway Maintenance has been piloted; the final NVQ version will require accreditation by the NCVQ.

Chapter 3: The Construction Industry

This chapter highlights the key factors impacting on training in the construction industry. It examines the structure of the industry, its workforce, recent changes in the industry, and current training provision. It sets out the context for understanding the important factors which have both facilitated and constrained the introduction of NVQs in the industry.

3.1 Structure of the Construction Industry

The industry is classified (SIC) into the following sub-divisions:

- general construction and demolition work;
- construction and repair of buildings;
- civil engineering;
- installations of fixtures and fitting;
- building completion work.

Its activities cover a very wide range of processes from simple house production to the construction of power stations and large civil engineering projects.

The industry is very fragmented and is dominated by a growing number of small employers and the self-employed. In 1990, 96 per cent of firms employed fewer than 13 people and there were about 201,486 small firms. One half of all operatives were self employed and there were about 718,000 self-employed workers (Department of Environment, 1991)[1]. Only 116 firms employed over 600 people but these firms accounted for about 26 per cent of the industry's output. These larger firms tend to concentrate on new work while the smaller firms mostly work on repair and maintenance.

The fragmentation of the industry has increased over the past decade with the widespread and growing use of sub-contractors. The number of directly employed operatives and administrative, professional, technical and clerical staff has declined markedly. In 1977, 1.3 million were employed but this declined to fewer than 1 million in 1987 and yet further to 985,000 in 1990 (Department of Environment). The move from employing direct labour to self-employment accelerated during the recession of the early 1980s and again in 1990 as firms shed directly employed workers and turned to labour-only, or supply-and-fix subcontracting, to reduce overhead costs. Thus the number of self-employed holding 714 Certificates in the construction industry rose from 155,546 in 1977 to 410,493 in 1987 to 720,000 in 1989 (Gann 1992). Associated with this shift has been an increase in the number of small firms. Between 1980 and

1 These figures are very approximate because the structure of the industry, its fragmented nature and large number of small employers make the collection of reliable data very difficult. In addition, the informal and flexible contracts of some of the workers and the marginality of other workers and firms means that some workers and output are unrecorded and unmeasurable.

1990 the number of firms employing 13 people or less rose from 101,709 to 201,486. The number of large firms (employing over 600 people) dropped from 140 to 116 during the same period (Department of Environment).

A feature of the industry is the number and diversity of occupations within it. Consequently, there are a large number of professional organisations, often with narrow fields of specialisation and imperfect understanding of each other's operational difficulties.

The industry's workload is cyclical, very susceptible to the fortunes of the economy and volatile. The volatility of demand for labour across the country, caused by the labour intensive nature of major contracts, encourages labour mobility. All these factors combine to make forecasting of the supply of and demand for labour and identification of training needs very difficult.

3.2 The Workforce

In 1989 the construction industry employed about one and half million people which represented 6.7 per cent of the total British workforce (Foster 1991)[2]. The industry is dominated by men under the age of 55 years (Wells 1989) with craft skills. Only 2 per cent of construction craft operatives are women (Fairbairn 1991). The nature of much of the work, the image of the industry and the instability of employment make it difficult to attract recruits with high academic ability.

The workforce is very mobile. Employees tend to work with a company for the duration of a contract and then change their employer. This mobility, along with the changing nature of employment from direct-labour to self-employment and the growing use of sub-contractor labour, has encouraged the use of casual labour which grew substantially in the 1980s.

3.3 Recent Changes in the Industry

The industry experienced nine years of growth up to 1989 which was mostly generated by the private sector. The share of new work for private clients rose from 58 per cent in 1979 to 78 per cent in 1989, changing both the overall composition of construction output and the nature of the construction market (Table 3.1). However, more recently the industry has been severely affected by the recession.

Table 3.1: The Composition of Construction Output (percentage)

	1979	1989
Repair and Maintenance	41	38
Private Commercial	10	20
New Private Housing	14	16
Private Industrial	12	11
New Public Housing	9	2
Other Public	16	11
TOTAL	100	100

Source: Department of Environment, quoted in Foster 1991

2 The classificatrion of employment in construction is especially difficult. Not all people who work in construction are so classiffied. People involved in the fabrication of building products are classified under manufacturing whilst most professionals are included as part of the service sector.

The type of work and skill requirements of the industry are also altering (Gann 1988) due to changes in the production process. For instance, organisational changes, in particular the rise in sub-contracting and construction management, have led to tasks being packaged in new ways whereby operatives and managers require a new combination of skills. Similarly, technical developments such as the use of new types of plant and equipment, especially microelectronic diagnostics and communication technologies, require new and different skills as does fast track construction which uses prefabricated components. Changes in the product, especially clients' desire for more sophisticated buildings using microelectronic control systems, has precipitated demands for new skills.

All these changes, including the restructuring of the construction market and the rise of new trades, point to the flexible and shifting boundaries of the construction industry. Above all, and of special importance to this study, they necessitate new working practices, skills and training, although there remains a demand for traditional craft skills, for example, in restoration and conservation work.

All these changes are leading to a diversification of skill needs in the construction industry. Some point to an increase in skill specialisation, others towards multi-skilling. All have implications for training.

3.4 Training within the Construction Industry

Overall, the construction industry has a poor training record and the extent of formal training is limited. It has the lowest proportion of trained employees and in 1987 only 24 per cent of its employees were trained. In that year, employees received an average of 1.9 days of on-the-job training and 3.9 days of off-the-job training (Department of Employment 1990).

Training in construction is organised principally by the CITB. Its training is targeted at young new entrants rather than at older workers. In 1989/90, 69 per cent of the CITB's training expenditure was devoted to Youth Training (YT) which is now the major source of training within the industry (CITB 1990). It is also composed primarily of young men; only 1.6 per cent of the CITB's recruits were women in 1989 (Tulloch 1991). However, the overall number of CITB YT/YTS recruits has fallen in recent years from a peak of 24,714 in 1988 to 22,547 in 1989 and to 11,853 in 1990[3]. In addition, over the past decade, there has been a steady fall in the number of operative craft apprentices from a peak of 14,035 in 1980 to 5,026 in 1991 (National Joint Council for the Building Industry).

Training provision and the methods employed are fairly conservative. There is a strong emphasis on traditional craft skills at the expense of those skills arising from new specialisms and changes introduced by new technology, while time serving rather than skills testing remains a key characteristic of training.

3.5 Summary

- The structure of the industry makes the implementation and delivery of training in construction especially problematic and poses an enormous challenge for the CITB in particular.
- The growth of self-employment has led to the diminishing recruitment of trainees.

3 The very large decline in 1990 is because mechanical and electrical engineering left the CITB. Comparative figures for YT recruits for Building, Building Specialists and Civil Engineers are at a peak of 16,509 in 1989 and a low of 10,323 in 1991 (CITB).

- With fewer directly employed operatives on site available for supervision, the placement of trainees has become more difficult.

- More significantly, the self-employed are less inclined to take on trainees and contribute to the cost of training.

- Small employers, in this as in other industries, rarely organise formal training for their recruits. The proportion of establishments which do not undertake training falls uniformly as the size of the workforce increases (Department of Employment 1989).

- The industry's volatility means that in times of recession employers tend to be unwilling to train or recruit new trainees but during booms it faces both labour and skill shortages.

- The recent changes in the industry, the diversification of skill needs, and the limitations of current training provision all point to the need for reform.

- A more flexible form of training provision is required which will meet the construction industry's current and future skill needs.

Chapter 4: Implementing and Delivering National Vocational Qualifications: The Preconditions

This chapter highlights some of the key factors which have facilitated and constrained the implementation and delivery of NVQs. It sets out the structures which are necessary preconditions for the successful implementation and delivery of NVQs and highlights how these structures are lacking. The next chapter examines the more significant substantive issues which bring into question the theories underpinning NVQs and whether they can work in practice.

4.1 Access to Information

A minority of employers, training providers, and construction related organisations were very well informed about NVQs. They were, however, atypical, having 'privileged' access to information through membership of organisations and networks directly involved in the design, planning or delivery of NVQs.

Many employers had not heard of NVQs, small employers who were not members of any employer federations or other information networks being particularly unaware[1]. Yet these groups make up the majority of employers in construction (Chapter 3). Employers who were aware of NVQs had difficulties obtaining understandable and reliable information, being confused about conflicting and contradictory facts from varying sources such as the NCVQ, CITB, City and Guilds and local networks.

Similarly, employees and trainees were unaware of NVQs. This is borne out by a recent survey conducted for the National Council for Vocational Qualifications which found that 61 per cent of employees had not heard of NVQs (NCVQ 1992).

The training providers interviewed were also hampered by misinformation. They were uncertain where to turn to get accurate information and their understanding of NVQs and what they entailed was limited. This led to confusion, misconceptions, and differing interpretations. In turn, this slowed down the implementation of NVQs, affected staff morale, and led to apathy amongst staff.

Training providers were concerned by the CITB's slowness in producing and distributing the units of competence, performance criteria, and assessment guidance[2] a problem faced by many Lead Bodies and not solely the CITB. As a result, one provider had to delay introducing NVQs by five months. Colleges had inadequate time to prepare and train staff; to devise new training programmes and teaching materials; to organise timetables; and to implement

1 Six employers with between 20 to 80 employees, and who sent trainees to one of the Colleges, were contacted in June 1991. Only two had heard of NVQs. One had heard via the Building Employers Confederation. The other only knew because he was undertaking some building work at NCVQ Headquarters in London but he did not know what NVQs were!

2 The reasons for the delays are numerous and can be related to poor planning management, organisational change, a lack of clear vision, resistance to change, low prioritising and conflicting demands and interests.

the NVQs properly. They were frustrated by the way NVQs, in their opinion, were being rushed through because of the slowness of the CITB. They were disturbed by the fact that the CITB were going to change their contents in 1992[3]. Consequently, many were disillusioned and lacked confidence in the process as well as the qualification.

These information and communication problems may reduce rather than increase access to vocational qualifications, contrary to their aims. They may put off some providers and employers from becoming involved in NVQs. Some of these problems can be overcome if more resources are channelled into the publicity and marketing of NVQs and there is greater collaboration and communication between providers and employers[4].

4.2 Funding and Resources for Training Providers

The costs of introducing NVQs are especially high in construction compared with other occupational areas (DES 1991). These are associated with fulfilling both the criteria to become an accredited Assessment Centre and the demands of NVQ competences. In order to be able to train towards and assess NVQs, the providers must have adequate facilities. These have to be approved by the CITB before they accredit an assessment centre.

Training providers have therefore had to make substantial adaptations to their buildings and their use of space. For instance, to allow for the construction of full-size as opposed to half-sized models, as is required the NVQ in carpentry and joinery which necessitates a realistic sized staircase, or the NVQ in brickwork which demands work above a single storey height.

Construction is also particularly resource intensive in terms of materials. Many materials are expensive to buy and not re-usable, such as wood. For instance, one unit in joinery and carpentry requires the trainee to assemble kitchen units from flat packs. These are very expensive to buy, can only be re-used once and are time consuming to dismantle.

These costs are being absorbed initially by training providers and not employers because assessment in construction is unlikely to take place in the workplace - an issue to be discussed in Chapter 5. However, the additional costs could lead to more reliable work simulations and the improved facilities may increase the capacity of providers in the long term.

The larger national training providers have been able to limit some of these costs. For instance, by devising imaginative and resourceful ways of using materials[5]; by buying materials in bulk; and by getting some of the performance criteria and competences relaxed through discussions with the CITB. These options are not necessarily available to smaller providers and thus the increased cost may put off some providers.

4.3 The Funding Body: The Role of Training and Enterprise Councils

The problems training providers face over costs have been exacerbated by the nature of the funding body and funding arrangements, especially for those providers who provide Youth Training places. Training and Enterprise Councils (TECs) now administer and distribute the training funds.

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3 Due to external pressures, the CITB launched the first set of NVQs before the functional analysis had been satisfactorily completed.

4 In 1992, the CITB launched a promotion campaign.

5 One private provider had run an internal pilot NVQ scheme. From this exercise they had become aware of the cost and resource implications and attempted to deal with them. The CITB are also producing a booklet on how to reduce costs.

a) *Allocation of Funding*

TECs have been designed to meet local industry's training needs. By contrast, construction is a national industry. Its workforce is highly mobile and fragmented, unlike many other industries. Its manpower and training requirements within a given locality are difficult to predict and are determined primarily by large building projects. These have a limited life and it is unlikely that TECs will be able to respond fast enough to meet the construction industry's training demands in their area.

A further drawback of TECs for construction is that the industry is highly volatile and cyclical. It is likely that some TECs will not encourage training when there is no apparent demand or train for a potential upturn in demand.

TECs are likely to have considerable problems in locking into the demand side for training within the construction industry. Overall, they may be an inappropriate mechanism for shaping the delivery of training within this type of industry[6].

b) *Size of Grants*

Training providers have been allocated between £17 to £40 per Employment Training and Youth Training craft construction trainee per week depending on the TEC and type of trainee. The grant is inadequate for some providers. Moreover, the grants do not acknowledge the additional costs associated with training in construction. This is particularly apparent where training vouchers have been introduced. Some TECs have placed construction in the same costing bands as other subjects which are considered much less resource intensive.

In addition, these grants do not cover the fees providers have to pay the CITB to become an accredited NVQ assessment centre.

c) *Output Related Funding*

To encourage the take-up of NVQs, funding to providers who train on Government sponsored training programmes (ie YT and ET) is output related. TECs retain a percentage (10 per cent in 1990/91 rising to 25 per cent in 1991/92) of the grant until the trainee has been awarded their NVQ[7].

Output related funding is likely to cause difficulties for training providers. It compounds the financial problems already being experienced. For instance, it means that providers will have to cost their training at 75 per cent of their grant in 1991/92 because they cannot guarantee that they will receive 100 per cent (if trainees do not gain their NVQs). In reality, providers may not get paid for all their training activities, or they may have to wait for full payment.

Providers may respond to these pressures in a variety of ways[8]. Some may become lax in their assessment procedures and hence lower the overall standards of NVQs. Others may select trainees for success and restrict access or deny training opportunities to certain types of trainee. Indeed, one college had decided to withdraw a course aimed at socially

6 These arguments have been used to support a continued and enhanced role for the CITB

7 The number of trainees eligible for this bonus is negotiated between the training provider and the TEC

8 Providers are likely to try and ensure trainees gain their NVQs before they leave them. Keeping track of ex-trainees and their achievements is an administrative burden and is particularly difficult in the construction industry, given the workforce's mobility

disadvantaged trainees. All such outcomes negate the aims of NVQs.

In addition, output related funding is only granted to trainees who gain an entire NVQ. Therefore it works against trainees taking NVQ units from a range of NVQs in different occupational areas. In other words, it is against training providers' interests to encourage trainees to mix and match their skills. This development is contrary to one of the aims of NVQs which was to encourage the transferability of skills between and within occupational areas.

Output related funding is also likely to cause complications for TECs which will need to assess its impact on access to training provision; to monitor the NVQ pass rates; and establish the effect on their budgets. TECs will also require administrative flexibility to cope with paying providers the output related bonus perhaps one or two (financial) years after training has been provided.

In all, there is evidence that the high costs associated with NVQs assessment in construction, the funding body and arrangements, and other uncertainties about finances[9] are acting as a disincentive to some training providers. It is simply not cost effective for them to run NVQs in construction. Thus, contrary to the aims of NVQs, access to training may be reduced and take-up may suffer. However, for other providers NVQs will provide new opportunities for generating more wide ranging courses to a broader market.

4.4 Funding for Employers and Trainees

The funding and resource problems faced by providers eventually will be passed on to employers and/or individual trainees, increasing the training costs yet further for a qualification which is already perceived as more expensive than the old City and Guilds Craft Certificate[10].

The increased costs may be a disincentive to train, especially in the current recession and particularly for self-funding individuals, employers not subsidised by the CITB, small employers and the self-employed: all the groups with the poorest training records (Chapter 3, section 3.5).

Some employers will rationalise their off-site training provision because of the increased costs. They will choose to pay for employees to gain a limited number of units rather than an entire NVQ. This is unlikely to be in the best interests of either individuals or the economy. Overall, there is likely to be a decline in demand for certain kinds of training provision, increasing competition between training providers, and a decline in the take-up of training.

4.5 Summary

- The problems of access to information about NVQs and their funding help explain the slow implementation of NVQs within the construction industry. These drawbacks, however, are not peculiar to this industry. They potentially affect all industries trying to introduce NVQs.

Access to Information

- The lack of information is affecting the supply of NVQ courses. It is acting as a disincentive to training providers to put on NVQ courses.

9 Colleges feel particularly insecure about their future funding in the light of the most recent White Paper *Education and Training for the 21st Century* (Cmnd 1536).
10 The additional costs for employers are primarily associated with the cost of assessment. Colleges will be able to charge what they like for assessment.

- The absence of reliable information has resulted in confusion and contributed to poor staff morale and apathy.

- Providers who have put on courses have been frustrated by the misinformation and the slowness of the lead body to provide all the necessary material for running NVQ courses.

- On the demand side, lack of awareness among employers and employees means that it will take some time before demand from these groups is translated into increased take-up.

- It will take some time for the new qualifications to bed down. The necessary training material for NVQs will become more readily available and providers will become more familiar with the various procedures involved in the delivery of NVQs.

- As more people are trained in NVQs, information about them will filter down to employers and employees.

- In the short term, more resources need to be channelled into publicising and marketing NVQs.

- The potential benefits of NVQs to both employers and employees need to be widely advertised.

The Funding of NVQs

- The extra costs associated with NVQs need to be acknowledged in the funding mechanisms.

- Special consideration needs to be given to those NVQs where the demands of meeting the competences are especially resource intensive (and are unlikely to be assessed on employers' premises).

- NVQs should not be seen by any of those involved as a device for 'training on the cheap'.

- Special attention needs to be given to the training requirements of industries, like construction, which have a national labour market rather than a local labour catchment area. TECs may not be best placed to respond to those demands.

- The intended and unintended consequences of output related findings need to be monitored and scrutinised by TECs and TEED.

- There is growing evidence that output related funding is adversely affecting both who gains access to training, and also the type of training provided. These developments are contrary to the aims of NVQs.

- Both the supply and demand of NVQs are being affected by the cost.

- Some providers are not running courses because they are considered too expensive and not cost effective in comparison to the previous qualifications.

- Some employers are rationalising their off-site training provision.
- Access to training, in its broadest sense, is likely to be affected unless funding arrangements are changed.

Chapter 5: Implementing and Delivering National Vocational Qualifications: Substantive Issues

This chapter focuses on issues of substance in the delivery and implementation of NVQs. In particular, it questions the structure and philosophy underpinning NVQs, whether they work in practice, and their impact and take-up.

5.1 The Role of LIBs

There are serious structural problems with the LIBs. There are now over 140 and their number continues to grow. However, their development and representation have not been adequately co-ordinated.

Most LIBs, as their name suggests, represent an industry or sub-sectors of an industry. They are heavily rooted in their particular industry and rarely work co-operatively with other LIBs. Only a few were set up explicitly to operate across industries. Their present structure, therefore, neither encourages concern with the same occupations found in other industrial sectors nor promotes the development of occupationally based competences. Yet NVQs aimed to enhance the transferability and progression of skills both between and within industries and occupations.

A practical consequence of this structural constraint is the duplication of NVQs in occupational areas that cut across the remit of differing LIBs. For instance, in plant machinery more than one NVQ has been devised by different LIBs covering the same activity and aimed at the same person. In turn, this is leading to a confusing proliferation of NVQs contrary to one of NVQ's aims, namely, to streamline the 'qualification jungle'.

There are similar problems of overlap and duplication even within occupations that fall under the auspices of a single LIB. For instance, within the construction industry the conflicting interests of employers and sub-sectors have contributed to the fragmentation of NVQ provision. This is complicated by the fact that the CITB has retained its status as an Industrial Training Board but some sub-sectors lie outside its scope and, consequently, have developed their own NVQs.

These problems have arisen in part because of the lack of structures and processes to oversee and co-ordinate the development of emerging NVQs. TEED, to some extent, is now taking on this role but problems still arise because of organisational boundaries within TEED.

In the long run the problems will be dealt with. However, the interim arrangements are somewhat unsatisfactory. For instance, some overlapping NVQs have only been accredited for a limited period of time. It is anticipated that the relevant LIBs will negotiate between themselves which of the NVQs will remain after the initial accreditation period runs out. In turn, this process is highlighting conflict and rivalry between LIBs as each one wants to assert their NVQ.

Training providers are likely to bear the brunt of these interim arrangements.

Many will have started teaching towards one particular NVQ only to find that the NVQ will be altered in the near future. Meanwhile, employing organisations are likely to be confused and to experience problems in deciding which NVQ to opt for.

To summarise, few NVQs, to date, have succeeded in being occupationally based within and between industries, as originally intended. Thus the flexibility in practice of the transferability of NVQs between and within occupations is brought into question. In the long term, what will be required is a further streamlining of both LIBs and NVQs and further co-ordination of their development and representation.

5.2 NVQ Competences

A main aim of NVQs is that they should be employment led and meet the needs of employers, hence the role of LIBs. In turn, more relevant qualifications would improve standards and increase take-up. In reality, this emphasis has been at the expense of pedagogic concerns resulting in a variety of problems.

The competences[1] devised by the CITB for the original Level 2 NVQs are too narrow, simplistic, mechanistic, employer led and assessment driven according to the training providers. They are unduly limited in terms of the breadth of the activity they refer to and the demands they make on skills, knowledge and understanding. They are tending to squeeze out general job knowledge because of their emphasis on job performance. This narrowness may therefore encourage rigidity rather than the flexible application of skills. Consequently, some training providers feel that standards are dropping[2]. As one training provider commented: "We will have people with competences rather than competent people."

The nature of the competences plus the system of competence based learning led providers to believe that their professional and craft skills were being undermined by NVQs, that they were being deskilled, and what they taught was being restricted. As one trainer commented indignantly: 'We're training people to use hammer and nails, that's all.'[3]

Together these factors are demotivating trainers who are traditionally conservative and wary of change. Some appear unprepared for the cultural changes implicit within NVQs. This is hampering the smooth introduction of NVQs in the short-term. However, in the long-term it could affect the quality of training provided and, in turn, the learning experiences of trainees.

Another drawback with NVQs in construction is that they were not conceptualised or written progressively. For instance, the CITB did not start with Level 1 or work down from Level 5. It started in the middle at Level 2 before CISC (which is responsible for Level 3 upwards) was even established. Moreover, there was considerable confusion and conflict over what the different NVQ levels meant in practice. The industry and CITB views which were informed

1 These competences have been revised since this research was undertaken and the following analysis describes the competences in place prior to April 1992. However, the thrust of much of the argument is still relevant.

2 Fears over standards have also arisen due to the funding arrangements. The number of weeks of training being funded is being reduced.

3 For more detailed information on staff attitudes in FE Colleges towards the introduction of NVQs, see Britton 1990.

primarily by practical and industrial relations' concerns rather than pedagogic concerns, were contrary to those of TEED, NCVQ and City and Guilds.

These differences of opinion, along with recent changes in NVQs, have led to frustration among employers and providers. Much of the preparation work done by providers has had to be changed. All this has caused confusion and delays in the implementation of NVQs. As one major employer concluded:

> *'The introduction of NVQs has been a farce. NVQs are turning into educational lunacy and not a practical solution to our training problems.'*

Some of the limitations of this first set of construction NVQs can partly be explained by the fact the CITB devised the competences before the functional analysis on the industry had been completed[4]. Others can be attributed to the CITB's composition and conflicting interests within the industry whereby different interest groups have attempted to ensure that their specific skill needs are met by the NVQ competences. However, underlining these drawbacks are more far reaching issues.

One such issue is the role of educationalists in the design of NVQs. The Department of Education and Science (DES) - now the Department for Education - has had only a minor involvement with the LIBs compared to employers. TEED and not the DES devised the model used by the LIBs for deriving work based competences. Educationalists who traditionally were responsible for devising curricula and influencing the contents of qualifications have partly lost this role. For example, in construction, the City and Guilds has played the role of junior partner to the CITB.

Educationalists' declining role in the formulation of competences has led to pedagogic concerns being overlooked and the educational content of NVQs being reduced. This has resulted, for instance, in poorly conceived NVQs which do not provide clear paths of vertical progression from one level to another, contrary to the aims of NVQs. It has also contributed to a qualification which is biased towards training rather than education *and* training.

A distinctive feature of many NVQs at Levels 1-3, in a range of industries, is that the 'educational' content has been cut in comparison to previous equivalent vocational qualifications.

NVQs may eventually provide a sound basic grounding in specific occupational skills, namely in **training.** However, this is currently at the expense of vocational education in areas like English and mathematics (Steedman 1992). NVQs, therefore, are seen by some commentators as a retrograde step in the development of vocational education and training for young people in Britain because they will not provide the general education for trainees in basic subjects to standards similar to those in Europe. NVQs, by failing to offer opportunity for consolidation and development of vocational education, may ultimately restrict young people's opportunities for progression and career development and may not meet the long term skill requirements of industry for a flexible, well educated workforce (Steedman 1992).

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4 For instance, NVQs have major implications for the rigid national wage structure which currently operates within the industry. In particular, they potentially threaten the structure because they introduce notions of flexibility and differential skill levels. For example, apprentices' pay is currently linked to time serving but it is unclear if this will continue and what will replace it. For instance, what will be the pay differentiation, if any, between a trainee who gains their NVQ level 2 within a year and another who takes three years to obtain it?

Indeed, the long term skill requirements of industry, even within the training competences devised, have not been adequately considered. The mechanisms used to establish the competences (ie occupational mapping and functional analysis) are essentially static tools and only give a one-off picture of the industry. They can say nothing about future trends in the industry or its future skill requirements. And hence the competences derived are similarly static and myopic.

This difficulty has been exacerbated by the dominance of employers on the LIBs. Employers traditionally are more concerned with their short-term needs rather than the long-term needs of their industry, the economy, and individual trainees. In other words, the narrowness of employer defined competences can, in part, be attributed to the conflicting interests underlying the whole notion of employer led competences.

What is required is a well conceived training strategy for each industry to inform the development of **employment-based** competences. Such a strategy would consider the nature of skill requirements in the industry as a whole, now and in the future. It would acknowledge the differing needs of different types of employers and trainees. It would question - skills for what and for whom?

5.3 Equivalence

One of the objectives of NVQs was that they would achieve common national standards throughout all industries and occupations and that NVQs would be comparable. In turn this would facilitate both flexibility and the transferability of qualifications between occupations.

It is difficult to judge at this juncture just how far this objective will be achieved in view of the varying number of units in different NVQs; the proliferation of NVQs; and the fragmentation of provision. In reality, it is probable that consistent standards will be achieved in some sub-sectors of industry but certainly not across all occupations and industries (Prais 1991).

5.4 Assessment

A key feature of NVQs is the assessment which is seen as a major device for improving standards and skill levels. Much emphasis has been placed on the role of workplace assessment which is seen as preferable because it 'offers the most natural form of evidence of competence and has several advantages, both technical and economic' (Employment Department/NCVQ 1991 p.21). However, it is questionable if this will happen in practice and whether employers will respect a qualification based upon assessment conducted by unknown quantities.

In construction, supervisors or master trainers currently oversee trainees' work. They are the obvious people to become on-site assessors. However, there was considerable resistance to the idea from providers, employers and supervisors. There was a general consensus that assessment would not take place at the workplace but would be carried out by the training providers. The reasons were related to its feasibility, cost, and reliability.

a) Feasibility

- It would be difficult to ensure that trainees were exposed to all the elements of competence and range statements required by NVQs. Often the range of work done in the course of a job is much more limited compared with the broader competences needed for NVQs.

For example, on one site visited an apprentice decorator worked for a company that only built new houses and only he painted the walls and ceilings in the new houses. Consequently, this trainee has no opportunity either to learn about wall papering or to be assessed on this particular competence. With the increase in specialisation and prefabrication this problem is likely to grow.

- Some of the competences requiring assessment are never used by craftsmen on-site because they do not reflect current working practices.

- The building process has it own progressive cycle that cannot stop for the sake of assessment. Hence trainees may have to wait a very long time before they can be assessed on a particular element of competence. Gaining an entire unit could take even longer. This problem is exacerbated by the fact that often trainees move from site to site.

- The way work is organised on sites makes observation by a single assessor difficult.

- It was apparent from site visits that the standards required by NVQs were higher than those commonly applied by employing organisations. As one decorator commented - 'its my job to hide the chippy's mistakes.' Often, too, there is a mismatch between company and NVQ standards[5].

- Those trainees who are not employed or do evening classes would not have access to workplace assessment.

- Health and safety issues are potentially at risk and this is especially important in industries like construction.

b) Cost

- The costs to employers in terms of time and resources to assess trainees, complete the paperwork, and train company assessors were considered prohibitive.

- Company assessor training costs could potentially be very high because of the workforce's mobility and high turnover.

- If employers used external independent assessors the costs would be very high. The logistics of arranging their visits to coincide with a distinct phase of building operations, and across a geographical spread of sites also could be very difficult.

- Sub-contractors who currently act as trainee supervisors would probably have to be paid more money to compensate for the lost time involved in assessing.

- Log books which were used in the City and Guilds craft certificate proved a burden and nuisance to some employers, especially small employers, and were often not taken seriously. Thus administering the much more extensive and complicated paperwork for NVQs is likely to be similarly problematic.

c) Reliability

- The reliability and the validity of assessment depends on maintaining

5 This is despite the fact that the competences have been agreed by the industry.

consistent standards among assessors. This will prove difficult given the fragmented nature of the industry and the thousands of sites.

- There was considerable resistance among supervisors to the idea of being trained as assessors. Yet training is an essential prerequisite to ensure assessors' credibility.

- Bias among workplace assessors was considered more likely than among college lecturers because of the nature of the relationship between supervisor and trainee. In construction, supervisors and trainees often work alongside each other as part of a gang. Research has suggested that people do not like to judge and evaluate their colleagues' work as it is often perceived as 'grassing' on them.

- The pressures of work on site, and especially income related bonuses, means that at times assessors could find it difficult to insist on the standards required.

- Much work on construction sites is team work so it is difficult to isolate and assess the work of an individual.

Unlike the craft NVQs, there has been a commitment with the highways maintenance NVQ to undertake workplace assessment and this is being strongly encouraged by their LIB, the Local Government Management Board. It is widely believed that work conditions cannot be adequately simulated (eg traffic passing at high speed, a discontented public). Moreover, there has been a strong commitment to train supervisors to be assessors which is also seen as a means of improving the quality of their work.

Many of these problems are likely to arise in other industries and some many not be easily solved, in particular, trainees' lack of exposure to all the competences required in NVQs.

The credibility of NVQs is dependent on the assessment. In construction, training providers were perceived as the most competent to undertake the assessment. They were deemed to have the most experience and for a range of practical reasons they were considered an easier option. Moreover, it is in the interests of providers to nurture these perceptions to ensure their continuing work and monopoly of training and assessment.

Whilst all qualifications are imperfect indicators of future capability, whatever test procedures are adopted must be valid, reliable, and minimise bias. But the reliability and validity of the assessment procedures are not scientifically proven (Prais 1991). For instance, it cannot be assumed that measuring outcomes is as valid and reliable as written tests. Oral assessment is fraught with potential problems unless conducted by skilled assessors. It can end up measuring the interpersonal skills of both the trainee and assessor rather than the trainee's knowledge.

Nor can it be assumed that measuring outcomes is a more efficient form of assessment. Oral questioning is a cheap substitute for practical tests, while written tests are certainly cheaper than projects and work-based assessment which are time consuming and encroach on the time available for teaching and learning. Finally, it is open to debate whether qualifications should be awarded where there is no requirement to sit a written exam: literacy is such a basic skill and if it is not tested the basis of the qualification is open to question. Thus the

ideas and theories underpinning assessment are questionable in practice. Assessment will need to be monitored regularly and, if necessary, revised.

5.5 Take-up

It is too early to judge what impact both the lack of prerequisite structures (Chapter 4) and the substantive issues will have upon the take-up of NVQs. Take-up could be adversely affected by the lack of awareness of NVQs, the costs of NVQs for both providers and employers, and output related funding.

In contrast, the facility for people to gain NVQs based on their previous work-related experience through the accreditation of prior learning is likely to lead to more people gaining vocational qualifications. The removal of barriers to access like age and training mode (which applied to the apprenticeship system) similarly is likely to increase take-up. However, these changes will not necessarily mean that more people receive training. It could just mean that more people get qualifications. More training depends on whether NVQs motivate employers and employees to wish to provide or receive training.

More qualifications are now available in areas where they did not exist in the past. It can be expected, therefore, that these new qualifications will attract trainees. So the numbers of people gaining qualifications and receiving some form of qualification is likely to rise.

Where NVQs replace existing qualifications it is unlikely that there will be radical changes. Employers with good training records will continue to train (finances permitting). Those disinclined to train are unlikely to change their behaviour. Indeed, the costs they will encounter, especially with work-based training and assessment, may be a disincentive. For instance, the main concern of employers in construction is whether their employees can do their job, not whether they possess a qualification. Ultimately, NVQs have not tackled head on employers' incentive to train or encouraged them to broaden training opportunities: this would require more specific policy changes.

One way of improving take-up is to ensure that only trained and qualified people are employed by using a registration system. Hence only those registered can be employed and a condition of registration would be training and a qualification[6]. Another device for improving the take-up is contract compliance, whereby contractors specify the use of qualified personnel only. This is a particularly powerful mechanism within construction given the way the industry operates. Similarly, NVQs could be used as an instrument to ensure quality control and assurance which could be placed in a wider context like BS 5750.

5.6 Summary

The role of LIBs

- There is confusing duplication and proliferation of NVQs within industries and especially in occupational areas that cut across different industrial sectors, contrary to one NVQ aim to streamline the 'qualification jungle'.

- Few NVQs are occupationally based within and between industries, as originally envisaged, which brings into question their inter- and intra-occupational transferability.

- Most of these drawbacks are associated with the operation of LIBs and

6 A registration system already exists for scaffolders and plant machinery operators.

the lack of appropriate structures and processes to oversee the development of NVQs.

- In the long term, what will be required is the streamlining of both LIBs and NVQs and tighter co-ordination of their development and representation.

NVQ competences

NVQs are in danger of being too employer specific. They have been employer rather than employment led. As a result they have focused on narrow standards and specific tasks. If they were employment led they would have focused on broader issues and conceptionalised competences in terms of basic skills, curricula and literacy.

- Many NVQs are limited and too mechanistic and restrictive. Often their educational content has been squeezed out along with pedagogic concerns.

- The narrowness of employer-defined competence training highlights the conflict between the short term needs of employers for very specific skills and the long term interests and training needs of individual trainees, the industry, and the economy: a conflict which underpins the whole notion of employer-led competences. It brings into question whether it is in the interests of individuals to have such narrow and partial training. Certainly it will be inappropriate for certain types of learners.

- To ensure a rise in training standards and skills, the contents and form of NVQs will need to be changed and re-assessed.

- To expand young people's career opportunities in the long term and meet the future skill requirements of industry for a flexible, well educated workforce, NVQ competences will require constant revisions.

- A well conceived industrial training strategy is required to inform the development of employment-based competences. The strategy should consider the skill needs of the industry now and in the future. It should question skills for whom and for what?

- The mechanisms for updating NVQ competences need careful consideration.

Equivalence

- All NVQs will need to be closely monitored to encourage the development of equivalent and common national standards throughout all industries and occupations.

Assessment

- Much emphasis has been placed on assessing NVQs in the workplace rather than in training centres. This is unlikely to happen in industries like construction, especially in the short term.

- A key obstacle is that few trainers are exposed to all the competences required in NVQs within the workplace. Other constraints are related to its feasibility, cost and reliability.

- To guard against unreliable, invalid, and inefficient assessment, the NVQ assessment techniques and procedures will need to be rigorously evaluated.

Take-up

- Take-up may be adversely affected by: the lack of awareness of NVQs; the costs of NVQs for both providers and employers; and output related funding.

- Take-up may be positively affected through APL, the removal of barriers to training such as age and previous qualifications, and the availability of NVQs in areas where no previous qualifications existed.

- NVQs are unlikely to change radically employers' incentives to train: this would require other policy changes.

Overall, the lack of key structures needed to implement and deliver NVQs, namely, access to information; funding for training providers, employers and trainees; combined with the substantive issues of LIBs; NVQ competences; equivalence; and assessment are all inhibiting and negating both the progress and aims of NVQs. As yet, most people cannot even conceptualise what owning an NVQ means.

Chapter 6: NVQs and the Training of Trainers

Much has been written on the training of trainers generally (eg MSC 1978, Pettigrew, Jones, and Reason 1982, MSC/ITD 1984, Training Agency 1990, Horton 1990) but the focus of this chapter is on the implications of NVQs for trainers. In particular, it is concerned with general training requirements, those associated with the delivery and, most important of all, assessment.

Theoretically, a trainer and an assessor may not be the same person because the learning programme for NVQs is separate from assessment. However, in the construction industry, they are likely to be one and the same person in the short-term (see Chapter 5, Section 5.4) and this assumption underpins this chapter.

6.1 General Training

Many trainers interviewed could not anticipate their training needs as few had started training people for NVQs. They all agreed they needed to understand the nature of NVQs, their contents, structure, and the NVQ Framework. They also required a better appreciation of why NVQs were being introduced and how they fitted in with the changing structure and demands of industry. In part, this is necessary to counter both the negative attitudes of trainers towards NVQs and their demoralised state.

Most senior personnel in colleges and training centres recognised the need to be much more proactive in the training market and design NVQ provision according to employers' needs. Hence, they required a better grasp of marketing, especially its nature; its effects on their organisation and staff roles; how to develop marketing plans, analyse markets, meet market needs; and how to promote and sell training.

A minority sought guidance on developing stronger links and collaboration with TECs, schools, local industry, and employers. On the whole, providers' liaison with employers was weak. Employers had not shared in course design and development or collaborated on the integration of on-the-job and off-the-job training and education. Indeed, many employers were unaware of NVQs and uninterested, and only a minority of providers were attempting to remedy this.

Some senior training personnel wanted to identify local skill shortages, training needs and interests. In this context, they recognised the importance both of training needs analysis and of translating these needs into learning programmes which dovetailed with their capabilities. In part their capacity was dependent upon staff development and their corporate strategy. In practice, few had developed either.

6.2 Training Related to the Delivery of NVQs

Most providers had been delivering set syllabi with a start and end date and annual examinations. By contrast, NVQs demand greater flexibility because they are modular, trainees work at their own pace, and assessment is

continuous. This requires a variety of skills from both trainers and their managers.

Trainers may have to experiment with their teaching programmes whereby they can teach what they think is important and at the same time meet the NVQ standards of competence. This is vital to counteract what many trainers believe to be the mechanistic characteristics of NVQs. It is important, too, for their self-esteem and professionalism which in turn will impact on the quality of training they deliver.

Trainers will have to learn how to deliver competence based training in modular form. This may demand different teaching techniques to convey both the competences and job knowledge. They will need to learn how to devise modular study packs and materials. They will need to discover ways of packaging and presenting these modules so that they are attractive to trainees. For many trainers in construction the whole notion of modules was foreign and some viewed their introduction with trepidation.

The way training is organised will also change from a set annual intake to roll-on/roll-off training. Consequently, both trainers and their managers may require enhanced management and organisational skills. In future, they may well have trainees working on different elements of competence and at different levels.

How training is conducted may similarly change. NVQs demand a more student-centred approach to learning. Each trainee has an individualised training action plan which they formulate together with the training provider. Thus trainers may need to give their trainees more support, guidance, and advice. They will need the skills to identify both an individual's training needs and how these are best met. They will have to help trainees to 'own' their own specially devised training programmes. This may demand a new way of interacting with trainees. These qualities will be necessary when dealing with all trainees and especially for people seeking APL.

Trainers will have to work more collaboratively with trainees and ensure that they are allowed greater autonomy and independence. Many trainers may find this difficult because they have tended to spoon-feed trainees in the past. Similarly, they will have to learn how to let trainees progress at their own pace and not hold back brighter trainees.

The introduction of NVQs has considerable potential implications for the way trainers train and, in turn, their training. It is difficult to predict, however, to what extent NVQs will actually affect practice. Some trainers inevitably will adapt NVQs to make it easier for themselves.

6.3 Training Related to Assessment

Assessment is a salient feature of NVQs and vital to their credibility. It is one of the most radical changes facing trainers and is the area where they have the greatest training needs. Trainers, as assessors, will have additional duties. They will be responsible for:

- liaising with the Awarding Body and nominated verifiers;
- maintaining and securing assessment material;
- conducting assessment;

- maintaining training records;
- despatching records to the Awarding Body;
- conveying the awards and certificates to candidates.

These responsibilities will necessitate training on the nature of the NVQ system; how to conduct assessment; assessment strategies and; techniques; recording assessments; recording and certification procedures; and how to accurately complete all the relevant NVQ documentation.

Unlike most forms of assessment, trainees will know in advance what they are being assessed on. This may require trainers to adopt a different approach towards assessment and could change the relationship between the trainer and learner. For instance, it is important that trainees are put at ease when being assessed and that assessors are sensitive and tactful in their stance and their observation.

Different types of assessment will need to be devised by assessors, such as direct observation, simulations, projects, and written and oral questioning. These forms of assessment may be unfamiliar and thus necessitate special training. For instance, direct observation will demand learning to conform to the rules of direct observation and recording and to dispense with notions of discretion.

Oral questioning which can be conducted through conversation, direct questioning, or interviewing in particular, demands specific skills. The questions have to be posed in ways which are comprehensible and identify the knowledge being sought. They have to be derived from the standards; be limited to the activities described in the standards; demonstrate underpinning knowledge and understanding; and be appropriate for the level. Care needs to be taken over the language and words used so that they are interpreted by the trainee correctly. Finally, the answers have to be assessed fairly. All this calls for specific types of communication skills and training.

Where assessment is not based on direct observation, but on alternative forms of evidence accumulation and evaluation, for instance with APL, more sophisticated skills are required of assessors. Assessors have much more discretion because of the lack of objective measures of competence. They have to judge the appropriateness of the evidence collected. This necessitates a broader understanding of the concept of competence and the principles underpinning NVQs. They need the skills to make judgements on the basis of evidence presented to them but not necessarily acquired by them personally (CITB 1991). This is important as trainers' credibility and training ability are much more likely to be called into question within this context.

Trainers also need to make judgements as to when candidates are ready to be assessed - a decision they did not have to make with previous qualifications. This demands them juggling a range of considerations such as the candidates' motivation and bureaucratic pressures to award NVQs.

To conclude, whatever form assessment takes and irrespective of external pressures, a key skill required of all assessors is objectivity. Without objectivity, the validity of NVQs can be brought into question. It is essential despite trainers' and assessors' reluctance to assess their own effectiveness. By contrast, the reliability of NVQs will always be open to question unless the variability between assessors is eradicated, which is unlikely even with extensive training.

6.4 Training Provision

At the time the research was conducted, only a minority of the trainers interviewed had done any training in preparation of NVQs. A few providers had training planned which ranged from short in-house staff development courses to City and Guilds courses in the 909 and 929 series. The atypical college participating in the City and Guilds 909 course was intending eventually to provide courses aimed at training company assessors. Others had not thought through the need for training their own assessors and complained about the lack of resources for such training. In part, this reflected their overall attitude towards NVQs. This lack of provision is a worrying omission, given the importance of skilled assessors.

6.5 Summary

- Ensuring the competence of assessors is vital to the maintenance of high training standards and the credibility of NVQs. If people with NVQs are not considered competent by employers then the whole credibility of NVQs is likely to be undermined.

- One way of ensuring able and skilled trainers and assessors is via training.

- Trainers and assessors require a general induction on NVQs because they are new and some of the ideas underpinning them are unfamiliar.

- They need more focused training which concentrates on issues concerned with the delivery of NVQs such as flexible modular courses with continual assessment. Such training needs to incorporate the changes in the way training is organised, conducted, and delivered.

- The greatest need for training is associated with changes in assessment techniques and procedures. Trainers have new responsibilities and have to adapt to new forms of assessment.

- Such training is essential to the aims and success of NVQs and adequate resources will have to be found.

Chapter 7: Conclusions

7.1 Background

The introduction of NVQs marks a radical shift in Britain's vocational training provision. NVQs aim to improve the take-up, level, and quality of training and rationalise training qualifications. They herald the development of a new centralised training strategy and new kinds of uniform national standards. These standards are based on competences rooted in employment and are assessed against specified performance criteria.

7.2 The Construction Industry and Training

Changes in the construction industry have transformed and diversified the industry's skill and training needs. However, the fragmented structure of the industry and its volatility have made it difficult to meet these new and changing needs. It is against this background that NVQs are being introduced.

7.3 The Implementation of NVQs

The introduction of NVQs has been slow and has been constrained by a variety of factors. Both the progress and aims of NVQs have been inhibited or negated by the lack of certain vital preconditions and, more seriously, the substance of NVQs. Together they point to the very real problems in implementing and delivering NVQs.

The key **preconditions** necessary for the implementation and delivery of NVQs are:

a) Access to information

Employers, employees and training providers all need more information about the rationale, nature and content of NVQs. In the short term this will speed up the introduction of NVQs, improve trainer morale, and increase confidence in the process and qualifications. In the long-term it could improve the supply of NVQs by encouraging more providers to become involved in NVQs and hence broaden access. It could also increase the demand for NVQs among both trainers and trainees.

- Increased awareness of NVQs could be achieved through more publicity and marketing; and greater collaboration and co-operation between employers and providers.

b) Funding and Resources for Training Providers

- More funds and resources are required to help increase access to training and take-up.

- The high costs of introducing NVQs and running courses like construction should be fully acknowledged by TECs - the funding body.

- Output related funding is having distorting effects. Its impact will need to be monitored to ensure that providers do not become lax over assessment procedures or restrict training opportunities to certain types of trainees.

- It is essential that the costs and funding arrangements do not act as a disincentive to some providers so that running courses must be an affordable activity.

- There is a need to consider further how TECs, with their local organisation, can best service a widely dispersed and mobile industry, like construction.

c) Funding for Employers and Trainees

- A primary objective of the funding strategy towards employers and trainees should be to stimulate an increase in the overall take-up of, and access to, training.

- At present, high costs are a severe disincentive and may lead to partial training which is not in the interests of the economy or individuals.

In addition to these preconditions there are even more serious issues of **substance** which bring into question the ideas underpinning NVQs and whether they can work in practice. These **substantive issues** are:

a) LIBs

- The present structure of LIBs with their emphasis on individual industries needs to be reconsidered and rationalised.

- Restructuring is essential to facilitate the development of occupationally based competences and NVQs which enhance the transferability and progression of skills between and within industries and occupations.

- Rationalisation is paramount to stem the duplication and proliferation of NVQs in occupational areas that cut across the remit of different LIBs.

- NVQs need to be rationalised also because similar problems of overlap have arisen even within occupations that fall under the auspices of a single LIB.

b) Competences

- The emphasis placed on employment led qualifications and vocational training should not be at the expense of pedagogic concerns and vocational education.

- The contents should be reassessed to ensure that the NVQs do not lead to restrictive and mechanistic competences which are limited, too narrowly defined, lack job knowledge, and are too employer specific.

- A broader approach is demanded and one that results in well conceived NVQs which provide clear paths of vertical progression and, above all, a sound vocational education.

- The current narrowness of employer-defined competence training highlights the conflicts between the short-term needs of employers and the long-term interests of industry, the economy, and the individual: a conflict which underpins the whole notion of employer led training.

- This conflict can potentially be resolved if a more long term view is adopted. What is required is a well conceived training strategy which informs employment based competences: one that considers skill needs

now and in the future, one that acknowledges and balances the differing needs of different types of employers and trainees.

- To encourage the raising of standards and the flexible application of skills, the competences will need to be regularly monitored and updated.

- Training providers will need opportunities to utilise and expand their current skills to guard against their feelings of deskilling and to guarantee high quality training and positive trainee learning experiences.

c) Equivalence

- Stringent efforts will be essential to facilitate one of the objectives of NVQs, the achievement of common standards throughout all industries and occupations so that NVQs are comparable.

d) Assessment

- NVQ assessment is a major device for improving standards and skill levels.

- Much emphasis has been placed on workplace assessment for technical and economic reasons. In practice, it is unlikely that this will occur in industries like construction for a range of reasons related to feasibility, costs, and reliability.

- A major obstacle to workplace assessment affecting all industries, is trainees' lack of exposure in the workplace to all the competences required in NVQs.

- To secure the credibility of NVQs the assessment techniques and procedures must be valid, reliable and minimise bias and they must be evaluated to ensure they maintain these qualities.

e) Take-up

- It is too early to judge how take-up will be affected by the constraints outlined above. However, the lack of awareness of NVQs, the cost to providers and employers, and output related training all point to an adverse impact.

- By contrast, APL, the removal of barriers to access, and the availability of qualifications in new areas all suggest an increase in the take-up of vocational training qualifications.

- Overall, NVQs are unlikely to radically change employers' incentives to train: this would require other policy changes like a registration system or contract compliance.

7.4 NVQs and the Training of Trainers

Only a minority of the trainers and assessors interviewed had received any training. The competence of assessors is vital to the maintenance of high training standards and to the credibility of NVQs. One way of ensuring skilled assessors is to provide adequate training.

Trainers will require some general training to familiarise themselves with NVQs and more specific training associated with delivery. In particular, they will have to be more flexible in their teaching methods and approach. They have to learn how to deliver competence based training in modular form which is student-centred and individualised to the needs of trainees.

Most important of all, assessors will require training in the different forms of assessment processes and procedures. It is paramount that these are objective and minimise bias if the validity and hence the credibility of NVQs are to be maintained.

7.5 The Future

NVQs do have the potential for improving aspects of the vocational training system in Britain. Their emphasis on work-based training could benefit the less academic who tend to be more motivated in a work setting compared to full-time formal schooling. Their modualised format may mean that the less academic can achieve at least part of a qualification whereas in the past they would have gained nothing. Their formulation may lead to a much more trainee-centred approach to training. Their presentation may mean that individual training plans can be more easily formulated by small and inexperienced companies without a training department, while their design may mean that 'unqualified' people can get formal recognition for their skills and a qualification. However, NVQs will require some significant changes if they are to meet the challenges of the 1990s.

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